March 3, 2022 EOI #: HMIS-2022-03-01 Rev 01

Dear Interested Parties,

REVISED RESPONSE DUE DATE: Wednesday, March 16, 2022, at 3:00pm PST

EXPRESSION OF INTEREST (EOI) # HMIS-2022-03-01 FOR SYSTEM INTEGRATOR SERVICES FOR WATER UTILITIES (PRODUCTION AND DISTRIBUTION) SUPERVISORY, CONTROL, AND DATA ACQUISITION AND INDUSTRIAL CONTROL SYSTEM LOCATED ON THE HANFORD SITE

Hanford Mission Integration Solutions (HMIS), as a prime contractor to the U.S. Department of Energy (DOE) is issuing this Request for an Expression of Interest (EOI) to conduct market research to identify parties interested in providing system integrator services for an industrial control system for Water Utilities on the Hanford Site located in Richland, Washington.

HMIS intends to secure the services of an AVEVA company level Certified or Endorsed System Integrator for the Hanford Site Water Utilities' Industrial Control System that can provide integration of the following systems and/or computer hardware/software:

- AVEVA InTouch and Historian Server for System Platform 2017
- NetApp Network Attached Storage for remote Data storage
- Virtual Platform for the system Supervisory, Control, and Data Acquisition (SCADA) based on System Platform 2017 hosted on centralized, redundant servers
- Specify servers for virtualization
- AVEVA Edge InTouch
- Siemens S7 1200 and 1500 PLCs
- Allen Bradley ControlLogix PLCs

The EOI outlines a dedicated network enclave to include a central platform for the Hanford Site Water Utilities, commonly referred to as the Water Local Area Network (WLAN). Upon establishing the central network platform, additional systems and software for future projects will be tied into the WLAN.

HMIS is seeking a system integrator that can meet the following qualifications/requirements via the company's ability, or through teaming with another firm:

1. AVEVA Certified or Endorsed Level System Integrator. Minimum Company level certification is AVEVA CSI (Certified System Integrator) as defined by AVEVA, for the following:
    - Certified System Integrator – InTouch for System Platform 2017
        - Maintain at least two AVEVA Certified Developers on staff who are Certified in InTouch and Historian Server for System Platform 2017.
    - Certified System Integrator – AVEVA Edge
        - Maintain at least two AVEVA Certified Developers on staff who are Certified in InTouch Edge and Historian Server for AVEVA Edge

2. Minimum of 3 years of documented, current, Siemens S7 Programming for water distribution/utilities, with client reviews of the System Integrator's services. Resume(s) documenting the experience of the individual engineers to be assigned to the project will require verification prior to award.
3. Minimum of 3 years of documented, current AVEVA System Platform 2017 and AVEVA Edge project experience applied to SCADA systems for water distribution/water utilities, with client reviews of the System Integrator's services. Resume(s) documenting the experience of the individual engineers to be assigned to the project will require verification prior to award.
4. Minimum of 3 years project experience with virtualizing System Platform 2017 on virtual servers.
5. Minimum of 3 years project experience with data storage and backup for AVEVA System Platform Historian Server using Network Attached Storage for data storage and retrieval for Department of Health reporting.
6. Minimum of 3 years project experience interfacing Siemens S7 and Allen Bradley ControlLogix in the same network, with demonstrated proficiency exchanging data between Siemens ProfiNet protocol and Allen Bradley Ethernet/IP protocol
7. Demonstrated proficiency with OPC Servers.
8. Minimum 1 year project experience coding with Allen Bradley ControlLogix PLCs.

The anticipated work tasks may include, but are not limited to:

1. Support for project L-895:
    - Configure System Platform 2017 Historian and VersionDog to archive historical data and backup software programs to (2) redundant remote network storage locations (NetApp NAS 150 30TB units):
        - SCADA Historical Data, with the ability for operators to recover the data and reconstruct trends and reports for any data stored.
        - Utilize VersionDog Software (AVEVA product) to configure regular backup of System Platform Galaxy Repository versions and PLC program versions on the remote data storage NetApp's.
    - Provide Specifications and technical requirements for centralized servers (redundant) to support virtualization of the SCADA
    - Instruct on how the Software Installation and configuration should occur on the Server to run System Platform as a virtual platform, including but not limited to:
        - Virtual Domain Controllers
        - Virtual Failover (in place of physical failover between two main stations for the Water Utilities' SCADA)
        - Application Server
        - Historian Server
        - Redundant Historian Server
        - Dream Report
        - VersionDog
        - Storage of data from software "Worldview" – reliability engineering software being used to collect vibration data from pump and motor bearings in the pump stations for the water distribution network
            - Analyze the amount of data that will be produced and stored by talking with the Worldview software vendor Uptime Solutions, HMIS reliability engineering, to establish technical requirements

for adequate data storage space on the NetApp NAS units for this data

- Design and configure a Test and Development Environment for System Platform development and proof of concept before deploying new programming to the operational nodes.
  - No Cloud Services for this are allowed
  - Galaxy Repository
  - Test Application Server
  - Test Historian
  - PLC and I/O rack for testing proof of concept with simulated I/O

2. Support for project L897:
   - Integrate CPWTF (Central Plateau Water Treatment Facility) Pall Plant control system into the WLAN System Platform SCADA
     - Integrate AVEVA InTouch Edge HMIs and their screens into System Platform SCADA.
       - Conduct a study and make recommendations as to the detail required to be viewed and operated from the greater System Platform SCADA nodes for optimal water utilities operation.
       - Conduct a study of "SMARTBOX" for Pall Filter Plant data reporting, and make recommendations for solutions to bring this reporting into the greater System Platform SCADA and be stored on the centralized server and data storage platform
     - Study/Assess the signals between the sanitary water tank and Pall water plant, and make recommendations as well as program and implement these changes.
     - Study/Assess the network and instrumentation wiring for communications weaknesses and propose design solutions from a process control standpoint.

3. Support for up to four (4) additional water projects (either currently under construction or still in design phase), to include:
   - Siemens S7 PLC coding
     - Individual pump houses
     - Coding that uses two or more CPUs and control variables from different locations
     - Loss of communications contingency planning
   - Submittal Reviews from design firms for:
     - PLC Panel Design
     - Wiring diagrams
     - Software Requirements Specifications (describing process control)
     - Sequence of Operations (describing process control)
   - Submittal Reviews for construction procurements
     - Equipment
     - Construction submittals
   - Review of internal HMIS generated design, including but not limited to:
     - Networking design and installations
     - Hardware selection for Servers
     - SCADA and PLC changes to existing code

4. Ongoing long-term support for the WLAN SCADA

Interested parties are invited to submit an EOI, which should be no longer than twenty (20) pages in length that includes the following information:

1. Describe a brief history of the company.

2. Your company's desire to participate (Point of Contact, Title, Phone Number and Email).

3. Your company's ability, or as a team with another engineering organization, to meet the High Level Requirements as outlined in this EOI. If the requirement is met through teaming, then the other organization should be named as well.

4. Provide written confirmation that your company is registered in the System for Award Management (www.sam.gov). Please provide whether your company's socioeconomic size is small or large based on NAICS Code 541512 (System Integration Design Services).

Please send all responses to the Contract Specialist, Sami Finney at verla_sami_l_Finney@rl.gov no later than Wednesday, March 16, 2022, at 3:00pm PST.

As this is only an Expression of Interest and NOT a request for proposal, HMIS will not award off this request.